IN THE CLAIMS:

The following listing of claims replaces all prior versions

1.–17. (Cancelled)

18. (Currently Amended) A method of treating a human liver cancer which comprises the intrahepatic administration of a therapeutically effective amount of methoxymorpholino doxorubicin (MMDX) to a patient in need thereof, wherein said MMDX is administered in a dose ranging from about 100 mcg/m^2 to about 1000 mcg/m^2 ~~as an infusion of from about 15 minutes to about 30 minutes every 4 weeks~~.

19. (Cancelled)

20. (Previously Presented) The method according to claim 18, wherein the liver tumor is a tumor primarily confined to the liver.

21. (Previously Presented) The method according to claim 20, wherein the tumor primarily confined to the liver is a hepatocellular carcinoma (HCC) or a cholangiocarcinoma.

22. (Previously Presented) The method according to claim 18, wherein the tumor is a liver metastasis.

23. (Previously Presented) The method according to claim 18, wherein the intrahepatic administration of MMDX is via the hepatic artery.

24.-25. (Cancelled)

26. (Previously Presented) The method according to claim 18, wherein MMDX is administered with an agent, which remains selectively in a liver tumor after its injection into the hepatic artery.

27. (Previously Presented) The method according to claim 26, wherein the agent is iodized oil.

28. (Cancelled)

29. (Currently Amended) The method according to claim 18 ~~28~~, wherein MMDX is administered in a dose ranging from about 100 mcg/m^2 to about 800 mcg/m^2.

30. (Previously Presented) The method according to claim 29, wherein the dose is 200 mcg/m^2.

31.-33. (Cancelled)

34. (Previously Presented) A pharmaceutical composition for the treatment of a human liver cancer by intrahepatic administration via injection into the hepatic artery comprising:

a) methoxymorpholino doxorubicin (MMDX) in an amount sufficient to provide a dosage of about 100 mcg/m^2 to about 1000 mcg/m^2; and

b) a pharmaceutically acceptable agent which remains selectively in a liver tumor after its injection into the hepatic artery.

35. (Previously Presented) The pharmaceutical composition of claim 34 wherein the MMDX is in an amount sufficient to provide a dosage of about 100mcg/m^2 to about 800 mcg/m^2.

36. (Previously Presented) The pharmaceutical composition of claim 34 wherein the MMDX is in an amount sufficient to provide a dosage of about 200mcg/m^2.

37. (Previously Presented) The pharmaceutical composition of claim 34 wherein the agent is iodized oil.

38. (New) The method according to Claim 18 wherein the MMDX is further administered as an infusion of from about 15 minutes to about 30 minutes every 4 weeks.

39. (New) The method according to Claim 18 wherein the MMDX is further administered as a 5-10 minute bolus every 8 weeks.

40. (New) A method of treating a human liver cancer wherein the liver cancer is a tumor primarily confined to the liver and is selected from hepatocellular carcinoma (HCC) or a cholangiocarcinoma, or wherein said liver cancer is a liver metastasis, comprising the intrahepatic administration to a patient in need thereof, via the hepatic artery, of a therapeutically effective amount of methoxymorpholino doxorubicin (MMDX) with iodized oil, wherein said MMDX is administered as an infusion of from about 15 minutes to about 30 minutes every 4 weeks in a dose ranging from about 100 mcg/m^2 to about 1000 mcg/m^2.

41. (New) The method according to Claim 40 wherein said MMDX is administered in a dose ranging from about 100 mcg/m^2 to about 800 mcg/m^2.

42. (New) The method according to Claim 41 wherein said MMDX is administered in a dose of 200 mcg/m^2.